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FOREST INSECT INVESTIGATIONS

DETERMINING RESULTS OF BARK BEETLE CONTROL

BY

James C. Evenden, Associate Entomologist

In Charge forest Insect Field Station, Coeur d'Alene, Idaho  
1925

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## DETERMINING RESULTS OF BARKBEETLE CONTROL.

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James C. Evenden, Associate Entomologist,  
In Charge Forest Insect Field Station, Coeur d' Alene, Idaho.

This chart shows the annual loss of timber in the Independence Creek area for the past six years. It will be noted that from 1918 to 1921, both years inclusive, the infestation passed through a definite cycle, and that it was apparently starting to repeat in 1923. The 1918 loss compares to the 1922, and the 1919 to the 1923. From the conditions of the broods in the 1923 attacked trees, I feel rather safe in assuming that the 1924 attack would have been analogous to the 1920.

I believe that our control measures bring about a proportionate amount of reduction following the institution of the work which is in ratio to the percent of the infestation treated. For instance, in 1919 the infestation had increased from 23,000 B.F. to 58,000 B.F. Now I feel that the only premise which we can fairly adopt is that if in 1918 one half of the broods had been destroyed then there would have been but 29,000 B.F. destroyed in 1919 instead of 58,000. This work would no doubt have been considered a failure, for regardless of the control measures there was more timber destroyed than there was the previous year. But yet, knowing the history of the infestation as we do, the following years loss was reduced by one half. On the other hand, had control measures been instituted for the 1920 infestation, and one half on the infestation treated, and the corresponding reduction secured, the project would have been considered a great success for in 1921 there would only



have been 17,500 B. F. destroyed. But we know that the infestation dropped naturally and that a reduction of 70 percent was secured with no control work whatever.

Should we assume that if all the infestation was treated each year which resulted in there being no loss the following year whatever, we have the following data relative to the success of control work instituted at different times. A cost of \$5.00 per 1000 B. F. had been assumed for the treatment.

<u>Year of attack</u>	<u>Volume treated</u>	<u>Cost of control</u>	<u>Volume apparently saved</u>	<u>Volume actually saved</u>	<u>Cost per M per amount saved</u>
1918	23,000BF	\$115.00	23,000 B.F.	58,000 B.F.	\$ 1.98
1919	58,000"	290.00	58,000 " "	118,000 "	2.45
1920	118,000"	590.00	118,000 "	35,000 "	16.85
1921	35,000"	175.00	35,000 " "	24,000 "	7.29
1922	24,000"	120.00	24,000 " "	61,000 "	7.50
1923	61,000"	305.00	61,000 " "	?	?

In May, 1924, 49,000 of the 1923 infestation was treated, the remaining 12,000 is the amount which was estimated to have been missed in the control operation. The actual results of this work will not be known until this coming season. However, if we assume that the 1924 attack would have equaled the 1920, as the 1922 and 1923 did the 1918 and 1919, then from the untreated volume, which we have estimated, there would be a reinfestation amounting to 23,000 B. F. If such should prove to be the case then we would say that a saving of 38,000 B.F., or the



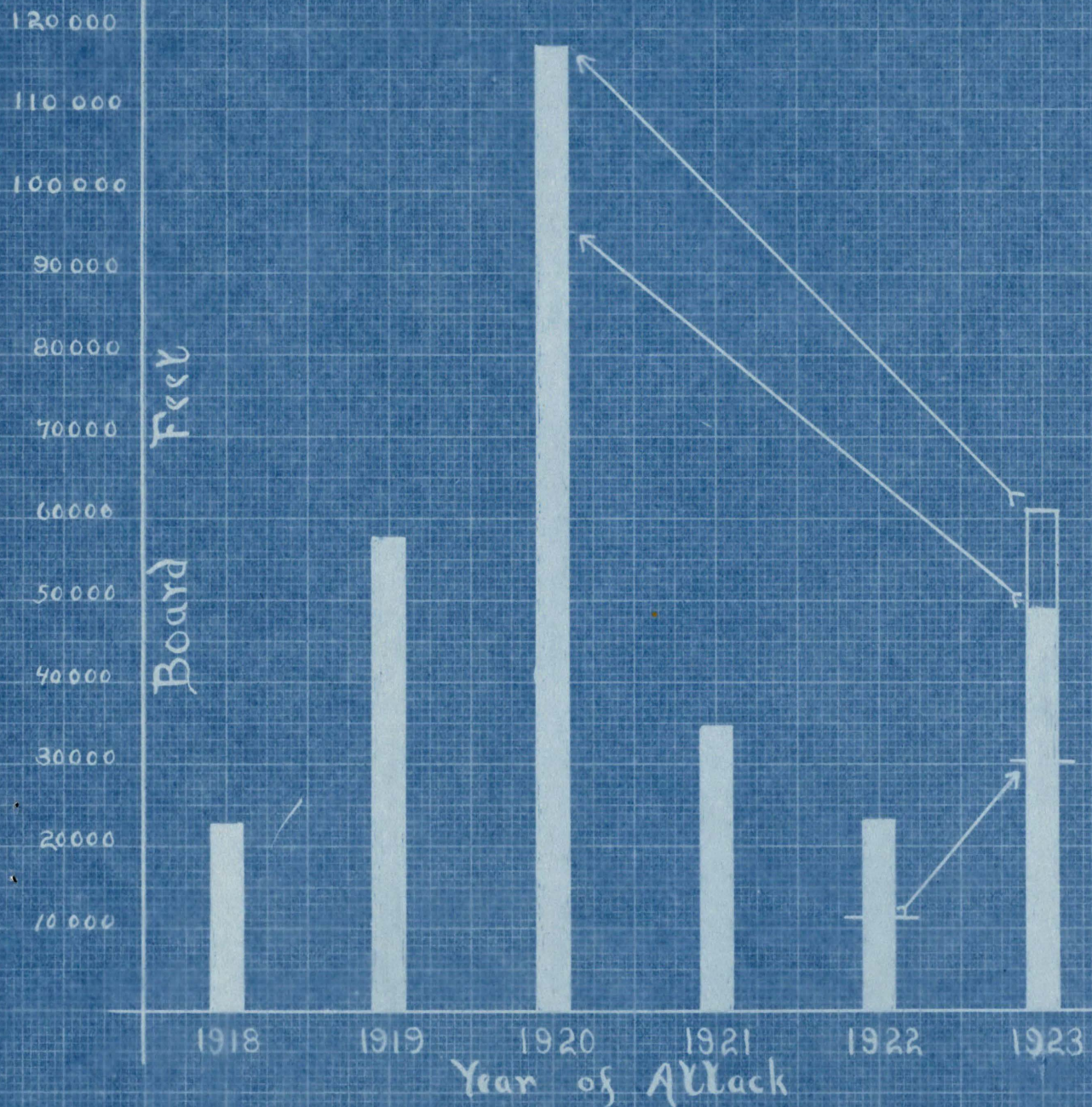
difference between the 1923 and the 1924 attack, had been made, but if we compare the future to the past, a saving of 95,000 B.F. was made. On the other hand, if but half of the 1922 infestation had been treated the reinfestation the following season would have been 30,500, or 6,500 more than the total 1922 loss. This project would have undoubtedly been considered a failure, and yet from the history of the project we can assume that a saving of 30,500 B.F. would have made at a cost of \$1.96 per thousand B.F.

I have made these rather hypothetical statements for the purpose of showing how impossible it is to judge the results of a control project, unless a history of the region is available, and then it is only an assumption. I strongly feel that all control work is successful but that it is impossible to determine the extent which nature plays in the scheme.



# Independence Creek Experimental Area

## Yearly Volume of White Pine Killed by the Mountain Pine Beetle





Independence Creek Experimental Area  
Yearly Volume of White Pine  
Killed by the  
Mountain Pine Beetle

